

TITLE 326 AIR POLLUTION CONTROL BOARD

REPUBLISHED SECOND NOTICE OF COMMENT PERIOD #98-235(APCB)

DEVELOPMENT OF NEW RULES CONCERNING EMISSIONS OF NITROGEN OXIDES

PURPOSE OF NOTICE

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on new rules that would control emissions of nitrogen oxides from Indiana sources. IDEM seeks comment on the affected citations listed and any other provisions of Title 326 that may be affected by this rulemaking.

HISTORY

First Notice of Comment Period: November 1, 1998, Indiana Register (22 IR 553).

Second Notice of Comment Period and Notice of First Hearing: May 1, 1999, Indiana Register (22 IR 2648).

Notice of Rescheduled Hearing: July 1, 1999, Indiana Register (22 IR 3134).

CITATIONS AFFECTED: 326 IAC 10-0.5-1; 326 IAC 10-1-1; 326 IAC 10-1-2; 326 IAC 10-2; 326 IAC 21-1-1.

AUTHORITY: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11.

SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING

On September 24, 1998, U.S. EPA issued a rule (NO_x SIP call) that requires each of twenty-two (22) states in the eastern United States, including Indiana, to reduce its emissions of nitrogen oxides significantly by 2007. The federal rule requires electric utility boilers, large industrial boilers, cement kilns and stationary internal combustion engines to reduce emissions by one hundred sixteen thousand four hundred sixty-three (116,463) tons by 2007. The rule is intended to reduce the transport of ozone and ozone causing pollutants that occurs in this multi-state region.

On November 1, 1998, IDEM published a First Notice of Comment Period requesting comment on the direction that IDEM should pursue in responding to the NO_x SIP call. The agency received numerous comments from various industries and groups and proceeded to develop draft rule language. On May 1, 1999, IDEM published a Second Notice of Comment Period. The draft rule language identified various options concerning regulated source categories and emission limitations. IDEM received numerous comments concerning the options presented including comments concerning the lack of specificity with the rule language.

On May 25, 1999, the U.S. Court of Appeals for the D.C. Circuit issued a stay of the deadline to respond to the NO_x SIP call until further order of the court. The court has not yet ruled on the merits of the litigation concerning the NO_x SIP call.

When U.S. EPA first proposed the NO_x SIP call, IDEM submitted comments concerning the stringency of the controls proposed by U.S. EPA. In the comments, IDEM indicated that work completed by the Ozone Transport Assessment Group (an organization of thirty-seven (37) eastern and midwestern states, U.S. EPA, and many other public and private entities) suggested that controlling

electric utility system boilers and large industrial boilers to a less stringent emission limit would reduce ozone transport and assist with attainment of the ozone standard in Indiana. Technical work done by Indiana also supported this conclusion. The controls for additional source categories, as proposed in the NO_x SIP call, would not be included until studies were completed to determine the amount of additional reductions that might be needed and the feasibility of reducing the emissions from these source categories.

There are several areas within Indiana that do not currently meet the one (1) hour ozone health standard. The Clean Air Act and U.S. EPA guidance require that Indiana develop and implement plans to bring air quality in those areas into attainment with the health standard. For Clark and Floyd counties, the attainment date is 2003. For Lake and Porter counties, the attainment date is 2007 and the attainment plan must be submitted to U.S. EPA by December 2000.

Numerous measures to control locally emitted pollutants have already been implemented in these two (2) areas (for example, vehicle inspections, cleaner fuels, and controls on small and large local industries and businesses). Indiana has determined that NO_x reductions consistent with those advocated during development of the SIP call are a necessary element of the attainment plans for these four (4) Indiana counties. Moreover, given the measures already in place are those that are the most cost-effective, NO_x reductions from utility boilers and large industrial boilers are a cost-effective control measure.

In addition to addressing Indiana's ozone nonattainment areas, the NO_x reductions called for in this rule will assist in reducing ozone transport outside of Indiana. The work done by the Ozone Transport Assessment Group indicated that the transport of ozone across state boundaries can affect nonattainment areas outside of the state. IDEM believes that it is important to lessen the contribution to any significant transport from Indiana to neighboring states that could affect their ability to meet the one (1) hour ozone standard. Due to the technical difficulty in assigning a specific amount of ozone pollution that is caused by an individual source, a statewide NO_x reduction approach is a more practical solution.

Therefore, given the uncertainty of the legal status of the federal NO_x SIP call, Indiana believes it must proceed with development of a NO_x control rule that achieves the reductions necessary to achieve attainment of the one (1) hour ozone standard. Because Indiana's approach is different from that contained in the NO_x SIP call and IDEM's initial draft rule language, IDEM is republishing a Second Notice of Comment Period with substantially revised draft rule language. A summary of the main elements of the draft rule and how they differ from the previous draft follows, as well as identification of several issues on which IDEM specifically seeks comment.

Applicability

The draft rule contained in this notice applies to electric utility boilers, combustion turbines, and combined cycle systems with a capacity greater than twenty-five (25) megawatts and large industrial boilers with a capacity greater than two hundred fifty million (250,000,000) British thermal units (Btus) per hour. A list of the sources IDEM has identified as likely subject to the rule, based on available information, follows:

Facilities owned and operated by the following:

Indiana Municipal Power Agency (Richmond
and Anderson units only)
Indianapolis Power and Light
American Electric Power
Hoosier Energy
Cinergy

Southern Indiana Gas and Electric Company
Richmond Power and Light
Northern Indiana Public Service Company
Indiana-Kentucky Electric Company
Southern Company

Industrial sources

Alcoa	LTV Steel
Amoco	National Steel
Bethlehem Steel	New Energy Corporation
Inland Steel	Purdue University
Indianapolis Power and Light (Perry K facility)	U.S. Steel

Sources should verify whether or not they meet the criteria listed however, even if they are not included in the list. This draft rule does not apply to cement kilns, small industrial boilers, internal combustion engines, or other sources of NO_x.

Indiana already has a NO_x control rule for Clark and Floyd counties. That rule affects large utility boilers, industrial boilers with a capacity greater than or equal to one hundred million (100,000,000) Btus per hour, cement kilns, and units other than boilers or kilns that have the potential to emit at least forty (40) tons of NO_x per year. There may be instances where the new and current rules apply to the same source or unit, and IDEM has included provisions that clarify that the source or unit must comply with the more stringent rule during the ozone season.

Emission Limits

The draft rule requires that, beginning in 2003, electric utilities meet an emission rate of twenty-five hundredths (0.25) pound of NO_x per million Btus during the ozone season (May 1 through September 30). Industrial boilers must meet a NO_x emission rate specific to the boiler type and fuel usage (ranging from four-tenths (0.4) to two-tenths (0.2) pound of NO_x per million Btus). IDEM has calculated that this rule will result in the reduction of sixty-five thousand six hundred thirty-one (65,631) tons of NO_x by 2007. A major difference from the previous draft is that this draft rule is based on a required emission rate, whereas the previous draft, as required by the NO_x SIP call, established a cap on statewide NO_x emissions and established budgets for the several categories of affected sources.

Compliance Options

The draft rule provides several compliance options. These are: strict compliance with the applicable emission rate through the use of add-on control equipment or other means, compliance through fuel-switching, and compliance using a system-wide averaging plan (the averaging of emissions from all the facilities owned by a source in Indiana). The previous draft operated primarily through a cap and trade program for the utility and industrial boilers.

Throughout the development of this rule, IDEM has sought input from interested parties. On November 8, 1999 a meeting was held to discuss the new direction that was being proposed. Copies of the draft rules were distributed and made available on the Internet and IDEM requested comment on

the draft rules. IDEM has made numerous changes to the October 1999 draft of the rule in light of these comments. IDEM continues to encourage participation in this rulemaking by interested and affected parties. Based on the comments received to date and IDEM's own analysis, IDEM specifically requests input on the following issues.

- Averaging period - The NO_x SIP call used an ozone season average. The draft rules include a 30 day rolling average. IDEM realizes that a longer averaging period provides greater flexibility to affected sources to meet daily production demands. However, ozone pollution is a daily phenomenon. Greater flexibility to exceed the twenty-five hundredths (0.25) pound of NO_x per million Btus emission rate increases the chance that excess emissions will occur on the very days when weather conditions are most conducive to ozone formation and jeopardize public health and attainment of the ozone standard. IDEM believes that a thirty (30) day rolling average provides an appropriate balance between flexibility and protection of air quality.
- Compliance monitoring - This draft rule requires sources to use continuous emission monitoring systems (CEMS) to monitor their compliance with the emission limit. CEMS are the most reliable method for assuring the source, the agency, and the public that a facility is in continuous compliance with its emission limit. This is especially true for sources that use an averaging plan or burn variable fuels. Several commenters have argued that other highly reliable methods of demonstrating compliance exist and are less costly than CEMS. IDEM welcomes further specific comment on this issue.
- Compliance date and energy reliability - The draft rule maintains the compliance date of May 1, 2003. The issue of a possible lack of materials, labor, and time has been raised, as well as possible impacts on the reliability of the electrical generation system. IDEM requests additional information concerning these issues and others that may affect the compliance date so that the agency can evaluate the need for additional time.
- Required reductions for utility boilers - The current rule establishes a twenty-five hundredths (0.25) pound per million Btus emission limit. Several commenters have proposed allowing a source to comply with this limit or a sixty-five percent (65%) reduction from 1990 ozone season levels, whichever is less stringent. IDEM has calculated that under this alternative approach, NO_x emissions would be reduced by thirty-one percent (31%), compared to a forty-four percent (44%) reduction under the twenty-five hundredths (0.25) pound per million Btus approach. IDEM believes that the greater NO_x reductions are necessary to achieve Indiana's air quality goals. IDEM will make its air quality modeling and other technical work available in upcoming public discussions.
- Credits for energy efficiency and early reductions and flexibility - The NO_x SIP call was based on a cap and trade system that would establish "budgets" for states and individual sources. There were provisions available to give credit to certain early reductions and the possibility to establish provisions to recognize and reward energy efficiency. The draft rule with this notice is based on an emission rate. The issue of providing flexibility to sources to determine the best mix of NO_x reductions has also been raised. This could be accomplished with the establishment of a target NO_x reduction and then allowing a source to identify the units and reductions that will achieve the necessary reductions. IDEM is requesting comment and specific suggestions on provisions that could be included in the rule that would recognize and reward energy efficiency and early reductions and provide additional flexibility in achieving necessary reductions.
- Trading - The NO_x SIP call included an interstate NO_x emission trading program to assist with compliance with the emission limits. As mentioned above, IDEM has not included a trading program in the draft rule. The Environmental Quality Service Council (EQSC) established a committee to

study emission trading programs in general and is working with IDEM concerning the possibility of establishing emission trading programs in Indiana. IDEM believes that it is better to pursue emissions trading outside of this rulemaking and to address emissions trading in a separate rulemaking.

In addition to the issues identified above, there are other recent developments that should be mentioned. On December 17, 1999, the U.S. EPA released final rules (126 rules) concerning the petitions that had been filed by several northeastern states under Section 126 of the Clean Air Act. This section provides that if U.S. EPA finds one (1) or more sources outside a state are significantly contributing to nonattainment of air quality standards with that state, it shall require those sources to reduce their emissions. In its recent rule, U.S. EPA found that certain sources in Indiana were contributing to nonattainment downwind and ordered those sources to make reductions by 2003, by participating in a federally administered cap and trade program. This rule is currently subject to legal challenge. The rules will be effective thirty (30) days from the date of publication in the Federal Register (unless a legal stay is requested and granted) and will require NO_x reductions from specific sources or source categories that were included in the individual petitions. Certain portions of Indiana will be impacted by the 126 rules, which could ultimately impact this rulemaking. IDEM will continue to assess the status of these requirements as well as those contained in the NO_x SIP call as this state rule proceeds through the rulemaking process.

Because IDEM is republishing the Second Notice of Comment Period, the comments summarized below are the same comments that were included in the May 1, 1999 notice. The responses have been amended to reflect the various actions that have occurred and the requirements that are included in the draft rule included with this notice. Comments and responses from the initial Second Notice of Comment Period, along with comments and responses from this republished Second Notice of Comment Period will be included in the board packet when this rule is sent to the board for preliminary adoption.

SUMMARY/RESPONSE TO COMMENTS FROM THE FIRST COMMENT PERIOD

IDEM requested public comment from November 1, 1998, through December 1, 1998, on alternative ways to achieve the purpose of the rule and suggestions for the development of draft rule language. IDEM received comments from the following parties by the comment period deadline:

American Electric Power	(AEP)
American Portland Cement Alliance	(APCA)
Amoco Petroleum Products Refining Business Group	(APP)
Cinergy Corporation	(CIN)
Crawfordsville Electric Light and Power	(CLP)
Eli Lilly and Company	(ELC)
Essroc Italcementi Group	(ESS)
Hoosier Energy Rural Electric Cooperative, Incorporated	(HE)
Indiana Manufacturers Association	(IMA)
Indiana Municipal Power Agency	(IMPA)
Indiana Petroleum Council	(IPC)
Indiana Petroleum Marketers and Convenience Store Association	(IPM)
Indianapolis Power and Light Company	(IPL)

Lehigh Portland Cement Company	(LPC)
Marathon Ashland Petroleum LLC	(MAP)
Richmond Power and Light	(RPL)

Following is a summary of the comments received and IDEM's responses thereto:

General

Comment: Cement manufacturing is a specialized and unique process. Because of the idiosyncratic nature of cement kilns, a one-size-fits-all approach to emission reduction is not practical. Most of the existing nitrogen oxides (NO_x) control technologies were developed for power plants and other indirect combustion processes. In addition to the distinctions between cement kilns and boilers, each individual cement manufacturing system is a unique process. The manufacturing process is highly variable, site specific, dependent on the type of equipment installed, and the raw materials that are used to make the product. Prescribing a specific NO_x control technology to cement manufacturing to achieve a standard reduction target does not work. In past efforts, most cement plants have had better success with process modifications rather than with low NO_x burners and other technological fixes. An effective and appropriate approach to cement plants would be to allow flexibility to determine what reductions can be realistically extracted at each plant and how those reductions can be achieved. (ESS) (APCA) (LPC)

Comment: The U.S. EPA's NO_x SIP call contains estimates for the cost-effectiveness of applying various control technologies to cement kilns. The cost-effectiveness of various technologies, as cited in the preamble to the final federal rule, are unrealistically low. The cost-effectiveness figures are based upon an Alternative Control Technology (ACT) document that was produced in 1994. Much of the supporting data used for the ACT document were produced even earlier and the document needs to be updated and based on more recent data and experiences. A final rule should not be based upon flawed assumptions and outdated information, such as those found in the ACT document. (ESS) (APCA)

Comment: In the proposed federal implementation plan to reduce regional ozone transport, the U.S. EPA presents the option of applying for an alternative emission limit to small entity-owned cement plants that would be regulated under the proposed federal rule. Cement plants owned by small entities experience a relatively more significant impact from emission control expenditures, but the alternative emission limit approach makes sense for all cement plants given the questions concerning the U.S. EPA's assumptions on possible reductions and cost-effectiveness. Experience with the suggested control technologies and kilns in Indiana has not resulted in the emissions reduction or the cost-effectiveness estimates of the U.S. EPA. These results demonstrate the inaccuracy of the Alternative Control Technology (ACT) document, the variability of specific kiln systems, and the variability of NO_x reductions using the same technology at different kilns. A rigid approach might reduce competitiveness and product quality at many cement plants, while a tailored, flexible approach will maximize emission reductions and maintain the vigor of this necessary industry. (ESS) (APCA)

Comment: It is understood that the portland cement manufacturing industry must fairly participate in the reduction of NO_x emissions from sources in Indiana in order to comply with the U.S. EPA NO_x SIP call and the following suggestions are offered. The required NO_x reductions should be from uncontrolled emissions based on the peak daily NO_x emissions during the ozone season. The NO_x budget should be based on the controlled emissions based on the peak daily NO_x emissions after the implementation of the NO_x control measures. And finally, the cement manufacturing industry should fairly participate in the NO_x SIP call reductions by reducing NO_x from uncontrolled levels by either

thirty percent (30%) or the amount achieved by implementing highly cost-effective control measures that would cost no more than two thousand (\$2,000) dollars per ton of ozone season NO_x reduced. (ESS)

Comment: The U.S. EPA's baseline is flawed and information clarifying incorrect information will be submitted. There is concern about the application of the growth factor used to project uncontrolled NO_x emissions in 2007. The growth in the portland cement industry over the past several decades has occurred almost exclusively at existing locations, where the limestone needed to make cement is present. This trend is expected to continue in the foreseeable future. (LPC)

Comment: The NO_x emissions from portland cement plants are only a fraction of the total industrial NO_x emissions. The NO_x reduction strategy to respond to the federal rule must recognize that the reductions achieved by process industries, such as the portland cement industry, will have a very small effect in achieving this goal. (LPC)

Response: Due to the court decision suspending the submittal deadline for the NO_x SIP call, IDEM is not pursuing a rulemaking that would comply with the SIP call that included reductions from cement kilns. IDEM is going forward with draft rule language that does not include the same mix of sources and emission limitations that was included in the draft rules published on May 1, 1999 (22 IR 2648). The draft rule included with this Second Notice of Comment Period only affects utility and industrial boilers.

Comment: IDEM should be clear about what the agency is trying to accomplish with this rulemaking, that is, comply with the new requirements promulgated by the U.S. EPA. The new state rules should explain on their face that they set forth standards for the state to comply with the U.S. EPA requirements. The clarity is important for several reasons. Several petitions for review have been filed in federal court to challenge the U.S. EPA's action. If the challenges are successful, sources should not be forced to pursue litigation in state court to sort out the portions of state rules that relied on U.S. EPA standards. The clarity is also important to avoid creating confusion and false expectations. With the promulgation of the final federal rules, the agency faces a very limited range of options. Unless IDEM is clear about the purpose of the rulemaking, it is likely that the public, or even members of the Air Pollution Control Board, will not understand the limited scope of the agency's discretion. Finally, IDEM should be clear about what the agency is doing to be faithful to its own determinations. Comments from the Governor and Commissioner, submitted in response to the U.S. EPA's proposed rule, were very critical of the proposed federal rules and the direction that U.S. EPA was taking. IDEM should not create the impression that the agency is walking away from its previous determinations and somehow endorsing the U.S. EPA's approach. The new state rules should thus be explicit that the rules implement federal requirements. The rules should include an effective date and language indicating that they will only be in effect as long as necessary to meet the federal requirements or that the state rules will terminate if the federal rules are overturned. (IPL) (AEP)

Response: Although federal regulations normally include a paragraph concerning the purpose of the rule, this is generally not done with Indiana rules. The agency has made it clear in the background and purpose section in the First Notice of Comment Period and this notice that the agency does not agree that the extent of NO_x reductions required by the U.S. EPA is necessary to address any significant contribution Indiana has in other states. IDEM has also stated in different venues that the agency does believe that a substantial reduction of NO_x is required to assist with attaining the one (1) hour ozone standard and to reduce any transport that may be occurring. This rulemaking is intended to achieve those reductions. As an alternative, IDEM believes that it is best to work with affected sources and the U.S. EPA in crafting a rule that accomplishes the goal of clean air in Indiana and reduced ozone

transport.

Comment: Some NO_x reductions from electric utilities and large industrial boilers are clearly appropriate. A leveling of the playing field for electric utilities has been endorsed by the utility industry that would establish a system-wide, annual average NO_x emission rate of thirty-five hundredths (0.35) pound per million British thermal units. IDEM has gone on record proposing a system-wide average of twenty-five hundredths (0.25) pound per million British thermal units and has determined that NO_x reductions below this amount would cause a substantial, and unjustified, cost to the electric utilities, without equivalent environmental benefit. While there is a disagreement as to which rate should be implemented, there is agreement that the fifteen hundredths (0.15) pound per million British thermal units is unjustified. (IPL)

Response: The agency has stated previously that a rate of twenty-five hundredths (0.25) pound per million British thermal units limitation would address Indiana's contribution to downwind states and this is the emission limit for utility boilers that has been included in the draft rule.

Comment: Efforts by IDEM to utilize the most cost-effective control measures available to the state are supported. During the Ozone Transport Assessment Group (OTAG) process, the U.S. EPA recognized the importance of cost-effectiveness in determining appropriate controls for NO_x emissions. In developing its rationale for determining the NO_x control measures that should be the basis for state NO_x budgets, the U.S. EPA focused on the average cost-effectiveness of controls. If additional NO_x emission reductions are proposed, the agency should also focus on NO_x controls that are proven to be the most cost-effective. The numerous waves of regulatory requirements have a cumulative impact on business vitality in the state. Given this impact combined with the questionable mandate for any reduction, it is imperative that cost impacts be given a high priority within the factors considered by IDEM to address this federal mandate. (MAP) (IMA)

Response: IDEM agrees that NO_x controls that accomplish necessary reductions and are the most cost-effective should be given the greatest consideration. IDEM is working with affected sources, U.S. EPA, appropriate state agencies and others, to develop cost estimates that are realistic and will provide a basis for the public to evaluate these important choices.

Comment: Ozone computer modeling will show that under some situations, usually in or near larger metropolitan areas, NO_x reductions may actually result in increased ozone concentrations, due to NO_x scavenging. These ozone disbenefits will need to be closely examined when IDEM develops control strategies to respond to possible eight (8) hour nonattainment within Indiana. However, that will need to be addressed in a separate rulemaking. (IPL)

Response: IDEM agrees that in certain situations NO_x reductions can actually increase ozone and result in a disbenefit. For the most part, the modeling indicates that disbenefits occur on days when ozone levels do not exceed the health standard. However, the agency will be examining this situation with this rulemaking.

Comment: According to IC 13-14-8-4, the air pollution control board shall also take into account the right of all persons to an environment sufficiently uncontaminated as not to be injurious to human, plant, animal, or aquatic life or to the reasonable enjoyment of life and property. The proposal to impose more stringent NO_x emission limits on electric utilities to reduce ozone formation does not come without hidden cost. The most effective, and most costly, NO_x retrofit control for a coal-fired boiler is selective catalytic reduction (SCR). SCR requires the use of large quantities of ammonia that is fed into

the boiler gases to help convert NO_x to harmless gases. Ammonia, when present in large quantities as required for SCR use, can pose substantial risk to employees and the public. A NO_x reduction rule that imposes substantial NO_x reductions requiring SCR controls would effectively force these sources to install large bulk ammonia storage tanks associated with the SCR controls. Section 112(r) of the Clean Air Act concerning accidental release prevention regulates ammonia and requires sources storing ammonia over a certain amount to prepare and submit risk management plans.

The use of ammonia also impacts efforts to develop and promote ash reuse markets. An example of the impact concerns concrete. Ash reuse as an additive for concrete would be curtailed because the residual ammonia makes the ash unacceptable. The ammonia escapes as the concrete is being worked and creates unacceptable working conditions for the workers using the concrete. The loss of a market increases disposal costs and increases the use of virgin materials that had been replaced by ash. IDEM should consider all of the environmental and economic affects associated with imposing stringent NO_x emission limitations on electric utility generating units. (IPL)

Response: The use of SCRs and the associated ammonia storage and use are issues that IDEM will consider during the rulemaking. As noted by the commenter, Section 112(r) of the Clean Air Act does require that sources storing materials such as ammonia must take precautions against a release, including the development of a plan for handling an emergency situation. The issue of ash reuse is one (1) issue that IDEM will be discussing with affected sources in an effort to develop a sound rule.

Comment: IDEM has been working with local groups around the state and, until recently, affected source categories in an effort to craft a plan that will likely lead to the expeditious attainment of the new eight (8) hour ozone standard. IDEM should resume working with the source categories that will be impacted by this rulemaking as these groups have ideas on more efficient ways to implement an appropriate solution in this rulemaking. These efforts, along with the modeling work done by the Lake Michigan Air Directors Consortium, of which IDEM is a member, demonstrate that by resolving its own eight (8) hour ozone nonattainment areas, Indiana will more than adequately reduce its contribution to ozone transport. (AEP)

Response: The agency has held several public meetings to discuss the rulemaking with all affected or possibly affected sources, and will continue to discuss issues with any interested party.

Comment: The final federal rule imposes far-reaching responsibilities on states under a compressed timetable, and there is considerable doubt about the ability of states to develop all the required program elements before the September 30, 1999 deadline. Given limited time and resources, states will focus on those minimum program elements that are necessary to ensure that their state implementation plan submissions are approved. Accordingly, the following recommendations are offered:

- The U.S. EPA should allow the state the full eighteen (18) months allowed to revise their state implementation plans.
- The U.S. EPA should follow notice and comment procedures when disapproving state implementation plans.
- The Section 126 petitions should be granted, and controls imposed, only following a notice and comment process culminating in state implementation plan disapproval.
- Federally enforceable controls, whether through a federal implementation plan or the Section 126 petition process, should be imposed only after there has been a period of negotiation and dialogue with the affected state. (CIN)

Response: While these comments address legitimate issues of public concern, they are outside of the scope of this rulemaking.

Comment: We support IDEM's leadership in its participation in subregional air planning organizations and in the creation of local advisory groups to deal with ozone issues. Under a new program included under Sections 176A and 184 of the Clean Air Act as amended in 1990, Congress gave states the responsibility, acting through multi-state commissions, to decide whether or not to recommend that the U.S. EPA issue calls for state implementation plan (SIP) revisions to address interstate ozone transport. This concept should be used to deal with ozone nonattainment and transport issues. A framework should be based on both a combination of a collaborative multi-state ozone transport commission with a modeling effort involving the Lake Michigan states expanded to include at a minimum Ohio and Kentucky, with a monitoring and air quality planning process overseen by subregional and local community air quality advisory entities. There would be agreed upon criteria for evaluating the relative air quality and cost effectiveness of controls in upwind and downwind states, setting control targets for utilities and other source categories, and determining de minimis levels of ozone transport too low to warrant interstate controls versus local controls. (CIN)

Response: IDEM will continue to work with other states in the midwest region, including those named by the commenter on issues of common interest, while moving forward with the state rulemaking process in an expeditious manner.

Comment: We support full attainment of clean air standards, but policymakers must choose the most constructive, cost-effective, and flexible means of achieving this goal. A phased emission reduction strategy that provides for cost-effective and timely NO_x controls should be implemented as an alternative to the federal final rule. The implementation would be as follows:

- Implementation of control level of twenty-five hundredths (0.25) pound per million British thermal units for electrical generating units with a heat capacity greater than or equal to two hundred fifty million (250,000,000) British thermal units by the 2003 ozone season. This would address one (1) hour nonattainment needs and significant ozone transport.
- Additional utility reductions and local NO_x and VOC reductions, if needed, after proper designations of eight (8) hour nonattainment areas and distribution of U.S. EPA guidance and procedures for emission inventory development, approvable eight (8) hour attainment plans, and related rules. The utility reductions may be appropriate by 2005 and may be between twenty-five hundredths (0.25) and fifteen hundredths (0.15) pound per million British thermal units. The possible, additional reductions would be determined through a multi-state ozone transport commission and local stakeholder air quality assessment process no later than July 1, 2001.
- The compliance deadlines for utilities in 2003 and 2005 could be extended for electrical reliability concerns.
- Supplemental reductions would be implemented no later than 2007 on local NO_x or VOC sources needed for attainment of the eight (8) hour standard.
- Due to the creation of a state-wide NO_x emissions budget for regional transport reductions, all supplemental NO_x and VOC emissions reductions would be implemented through a broad based NO_x and VOC cap-and-trade program. Separate trading programs could be established, but trading across sources would be allowed where appropriate. Administrative and monitoring responsibilities for subregional trading would be assumed by the U.S. EPA and states.
- The establishment of an orderly, phased set of deadlines for implementing progressively tighter emission limits would provide an orderly path and protect electric system reliability, encourage cost-effective compliance strategies, and allow creation of functioning trading markets. Early emission reductions would provide timely ozone benefits to those areas not attaining the one (1) hour standard and additional reductions needed to attain the eight (8) hour standard could be integrated with the air

quality planning and implementation efforts that the new standard will require. (CIN)

Response: IDEM has articulated its goals for this rulemaking in this Response to Comments document as well as in many other forums. Due to the litigation of the U.S. EPA directive, IDEM is moving forward with a rulemaking that will address attainment of the one (1) hour standard and ozone transport within and outside of Indiana. The draft rule includes a control level of twenty-five hundredths (0.25) pound per million British thermal units for large utility boilers.

Comment: Although states and industries face considerable risk if IDEM does not submit a state implementation plan revision by September 30, 1999, IDEM should not submit its state implementation plan revision until the Court's review of the U.S. EPA final rule is completed. Some states and affected sources have found the merits of the final federal rule to be illegal and petitioned the Courts for expedited review. Once the states have revised their regulations and had those regulations approved by the U.S. EPA, the requirements under the final federal rule would become state and federal law. In the event the final federal rule was found to be invalid by the Courts it would be extremely difficult to rescind the regulations. (CIN)

Response: Due to the extension of the submittal deadline granted by the U.S. Court of Appeals, Indiana is not pursuing a rulemaking consistent with U.S. EPA's final rule. IDEM is moving forward with a rulemaking that achieves the reductions needed to assist with clean air in Indiana and addressing any transport to neighboring states.

Comment: Indiana utilities are not significant contributors to nonattainment areas in the Northeast region. Ozone modeling using two (2) different methodologies shows clearly that the great preponderance of the ozone in most nonattainment areas is due to emissions from within the nonattainment area itself, the surrounding state, and immediately adjacent upwind states. The contribution to elevated ozone levels from distant states is trivial under severe ozone episode conditions. Utility NO_x reductions of approximately sixty-five percent (65%) combined with projected Clean Air Act controls would be sufficient to meet the one (1) hour standard for the remaining nonattainment areas in the midwest. The incremental benefits of controls called for in the final federal rule in distant areas with severe nonattainment problems is minuscule. The bulk of the Northeast Corridor will not meet the one (1) hour standard with the final federal rule controls and will still need to implement local controls. (CIN)

Response: IDEM has stated its belief that Indiana's contribution to high levels of ozone at far downwind states is not as long range a phenomenon as some have concluded, but also that certain NO_x reductions will assist in attainment of the one (1) hour standard in Indiana. The reductions will also address ozone transport to areas within and near to Indiana.

Comment: A NO_x control cost study confirms that the controls required under the final federal rule would be approximately twice as much as the latest cost estimate in the U.S. EPA's supplemental notice of proposed rulemaking. The study also shows that, with a uniform emission limit, compliance flexibility would be minimal and trading would offer negligible opportunities to reduce compliance costs. (CIN)

Response: IDEM understands the concerns with the cost estimates provided by the U.S. EPA. The agency is attempting to gather its own cost information for the affected sources. IDEM is seeking to develop a rule that reduces NO_x emissions to an appropriate level and in a manner that optimizes flexibility and considers the costs of the controls needed to get to that level. The control levels required by this draft rule will be more cost-effective than the NO_x SIP call control levels.

Comment: Judgements concerning the level of NO_x control necessary to address nonattainment of the eight (8) hour standard should not be made in a national rulemaking conducted before the state implementation plan process has begun. The state implementation plan mechanism in Section 110(k) of the Clean Air Act was never intended to apply before the U.S. EPA developed attainment guidance, as well as the state air quality planning and control process for a new eight (8) hour standard has even begun. (CIN)

Response: It is clear from recent monitoring data that several areas in Indiana have air that does not meet the ozone health standard. IDEM is working with those areas to address the needs of their communities. This rulemaking will assist the two (2) nonattainment areas in Indiana for the one (1) hour standard and any ozone transport that may be occurring.

Comment: IDEM should include a Clean Air Investment Fund endorsed in the President's July 16, 1997 directive on implementing the new ambient air quality standards and guaranteed NO_x allowance price in its NO_x budget trading rule. IDEM should set a guaranteed NO_x allowance price at two thousand dollars (\$2,000) per ton in 1998 dollars with adjustments for inflation in later years. This cap would be well above the average per ton control costs estimated in the final federal rule, but would provide utilities with protection if control costs turn out to greatly exceed this estimate. (CIN)

Response: Although this draft rule does not include a trading program, IDEM would be interested in discussing this proposal further with any interested parties, including possible mechanisms for assuring maximum price for allowances.

Comment: IDEM should implement a NO_x emission reduction program in a cost-effective, fair manner taking into account costs of control for the specific entities being regulated. The program should provide credit to utilities that elect to reduce NO_x emissions early. Under the acid rain program, Phase II facilities with Group 1 boilers were granted the opportunity to freeze NO_x emission limits until 2008, if the sources elected to comply with the Phase 1 limits by January 1, 1997, or three (3) years before the required compliance date. IDEM should give credit to early reductions to source that have expended significant amounts of money and resources to comply earlier than required and providing environmental benefits. (RPL)

Response: It is not clear by what mechanism IDEM could provide early reduction credit for the current draft rule. While the previous rule language would have allowed credit for certain early reductions, that rule was based on having an overall NO_x budget, whereas the current rule is a rate-based rule. IDEM agrees that providing incentives for early reduction is good public policy and will continue to discuss this issue with interested parties.

NO_x Sources To Be Regulated

Comment: NO_x emissions play an important role in the formation of ozone and the healthfulness of the air that we breathe. All sources of NO_x emissions should be evaluated and the emissions reduced where it is feasible and cost effective to make the reductions. (LPC)

Response: During the work by OTAG and the U.S. EPA, reductions similar to the levels included in the draft rule from large utility and industrial boilers were found to be feasible and cost-effective. Other sources of NO_x emissions may be evaluated at a later date and a separate rulemaking in the event further reductions are necessary.

Comment: In developing a plan for NO_x reductions, IDEM should fully consider the environmental

gains that are being made and will continue to be made under existing U.S. EPA fuels programs as well as the new programs already slated to come on line. These programs will involve significant new costs for consumers and will create further storage and distribution issues. State imposition of additional fuel controls for NO_x reduction purposes would not be practical or cost effective. In the final federal rule, the U.S. EPA recognized the importance of cost-effectiveness in determining appropriate control measures. In developing its rationale for determining which NO_x control measures should be the basis for state budgets, the U.S. EPA focused on the average cost-effectiveness of controls. The recognition by the U.S. EPA that federal reformulated gasoline, like other fuel reformulations, are less cost-effective than other strategies, even if volatile organic compound benefits are considered, is supported. (IPC) (IPM)

Response: At this time, IDEM is not proposing additional fuel controls for NO_x reductions.

Comment: If IDEM were to choose to impose less stringent NO_x emission rates on electric utilities, then other NO_x reductions must be made elsewhere for the state to comply with the U.S. EPA NO_x emissions cap. The establishment of a statewide enhanced inspection and maintenance program for all cars and trucks over four (4) years old, based on model year, is appropriate. A statewide enhanced inspection and maintenance program would do the following:

- Provides equity for all Indiana residents.
- Achieves dramatic volatile organic compound (VOC) reductions. VOCs are a precursor to ozone and tend to be the limiting component in larger, urban areas.
- Achieves significant NO_x reductions, the other precursor to ozone formation.
- Results in substantial mobile source emission reductions without imposing state or local controls on fuels.
- Puts emission reduction controls on a mobile source category that is increasing in size, both in terms of the number of vehicles on the road, and the number of vehicle miles driven.

Stringent NO_x reductions for industry does not adequately address NO_x generation. It is understood ozone precursor emissions from mobile sources play an important role in ozone formation.

In the NO_x SIP call, the U.S. EPA notes that the Ozone Transport Assessment Group (OTAG) called on states to consider expanding vehicle inspection and maintenance programs into urbanized areas. Inspection and maintenance programs are considered among the most cost-effective emission strategies available in the mobile source sector. IDEM may want to evaluate the implementation of inspection and maintenance programs as OTAG recommended and adjust the Indiana NO_x baseline emissions to reflect inspection and maintenance program implementation. (LPC) (IPL) (MAP)

Response: Due to the litigation of the NO_x SIP call, IDEM is proposing to go forward with a draft rule that affects only utility and industrial boilers that will assist with attainment of the one (1) hour ozone standard and has a less stringent emission limit for utility boilers. The NO_x reductions from vehicle inspection programs are relatively low, compared to the volatile organic compound (VOC) reductions and the one (1) hour ozone nonattainment areas already have vehicle inspection programs. Moreover, U.S. EPA has recently finalized rule requiring reduced emissions from mobile sources through both stricter tailpipe and fuel standards.

Comment: The Ozone Transport Assessment Group Mobile Sources Committee spent over a year evaluating an array of potential controls on emissions of ozone precursors from mobile sources, including fuel controls. One (1) of the options for NO_x reductions associated with fuel controls examined by the ozone transport assessment group was gasoline sulfur reductions. The committee concluded that NO_x controls for mobile sources are not cost-effective relative to alternatives. The

analyses show that fuel reformulation designed to reduce NO_x is very expensive and produces relatively small reductions. Due to the significant refinery equipment changes that would be necessary to produce this special fuel, it was agreed that the earliest that the program could be started would be 2004. The U.S. EPA is currently addressing the fuels issue in a separate forum to determine emission levels for Tier 2 vehicles. It is the U.S. EPA's position that the Tier 2 process is the appropriate mechanism for resolving fuel emission issues and that it would be imprudent to start a state specific process with a different time line, given that any changes required of refiners are best made based on a single investment decision. The response by the U.S. EPA to include an examination of the sulfur issue in its effort to determine the need for Tier 2 vehicle emissions standards is supported. (IPC) (MAP)

Response: The U.S. EPA has finalized federal rules concerning fuels and vehicle emissions that will reduce NO_x emissions, however the NO_x controls included in the draft rule will still be needed.

Comment: No additional regulation of new or expanding sources of nitrogen oxides is warranted. The U.S. EPA recently revised the new source performance standards for certain utility steam generating units and industrial or commercial boilers. The new source performance standard limits are at least as stringent as the U.S. EPA's assumed control levels that were found to be practical and cost effective in the federal final rule, and in the case of industrial boilers more stringent. In addition, the U.S. EPA utilized growth assumptions in its analysis, so additional control measures do not need to be applied to new or modified NO_x sources. (ELC)

Response: The emission limits included in the draft rule language would not be as stringent as the recently revised new source performance standard limits. Therefore, the rulemaking would not be imposing additional control measures on new or modified NO_x sources subject to the recently revised standards.

Comment: The U.S. EPA has included two (2) process units in the non-utility NO_x source inventory that may not be able to reduce NO_x emissions. The units are fluid catalytic cracking units where gasoline is produced. These units are not traditional NO_x combustion units that burn fossil fuels. The NO_x reduction technologies for these units are not feasible, do not produce appreciable reductions, or are not cost-effective. (APP)

Response: The U.S. EPA has recognized some inaccuracies with the inventory data. IDEM will continue to work with sources to evaluate reasonable controls to reduce NO_x emissions. The current draft rule language would only apply to boilers, combustion turbines, and combined cycle systems.

Comment: The U.S. EPA concluded in the final federal rule that larger NO_x combustion sources, fossil fuel-fired NO_x sources serving electric generators with a nameplate capacity greater than twenty-five (25) megawatts, combustion turbines, or combined cycle units with a maximum design heat input greater than two hundred fifty million (250,000,000) British thermal units per hour, can cost effectively comply with a mass emissions limit using reasonably available technology and can use continuous emission monitoring systems. The U.S. EPA also concluded that sources serving electric generators with a nameplate capacity equal to or less than twenty-five (25) megawatts are not in a position to meet these requirements and that requiring these units to be controlled would not add any significant data to aid a state in determining whether it is meeting the NO_x emissions limits. IDEM should adopt the criteria established by the U.S. EPA and should not require smaller sources to meet the same limitations and requirements that have been established for much larger sources. (CLP)

Response: Although IDEM had included smaller units in previous draft rule language, the current draft rule would apply to the same size of boilers, combustion turbines, and combined cycle units as

those under the NO_x SIP call.

Comment: Municipal utilities that may be regulated under the final federal rule are small, local businesses with limited revenues that suffer diseconomies of scale when faced with technology-forcing or other stringent emissions control requirements. Given the public power role in providing a competitive alternative to private utility companies and the responsiveness of municipal systems to community values, including environmental protection, IDEM should consider the role of public power systems in the emerging competitive utility industry, address the particular needs and concerns of municipal systems, and avoid placing these systems at a competitive disadvantage. The diseconomy of scale will result in a financial burden and may cause retirement of selected units. The retirement of existing smaller units may result in losses of available capacity for summer peaking operations resulting in a loss of system reliability and the loss of reliability may be exacerbated by the loss of available generation capability as new technologies are installed during unit outages. IDEM can address the concerns of municipal utilities in the following manner:

- Exempt utility units under seventy-five (75) megawatts in capacity from NO_x emission controls under the new rules to control emissions of nitrogen oxides.
- Take action to avoid any disproportionate impact on smaller-sized utility units that are not eligible for the seventy-five (75) megawatt exemption, by providing regulatory flexibility and incentives, including adopting a NO_x cap-and-trade program that meets the needs of the smaller units. (IMPA)

Response: IDEM has included utility sources greater than twenty-five (25) megawatts in capacity similar to the federal rule, but the emission limits included for these sources is less stringent than the federal rule. Although the draft rule does not include a trading program, IDEM has included fuel switching and emission averaging provisions to provide some flexibility in complying with the rule.

Emissions Trading Programs

Comment: The proposed NO_x trading program contemplates an annual reallocation of allowances three (3) years in advance of the applicable ozone season. IDEM should consider allocating NO_x allowances for more than one (1) ozone season, three (3) years in advance. A source's allocations may change from year to year with this proposed methodology. Uncertainty over allocation amounts and availability may make sources decide to install controls rather than participating in a trading market, even though purchasing allowances may be more cost-effective. Certainty in having allowances into the future will provide predictability for sources in compliance planning and build confidence in the market, and to optimize market certainty and viability, allocations should be made for the longest possible period. Allowances should be allocated in blocks of at least five (5) seasons, three (3) years in advance. This will provide an eight (8) year compliance planning horizon and yet provide opportunities for adjustments if new budget levels are established in the future. As an alternative, allocations should be for a period of ten (10) years, with a new source set-aside to cover emissions for new sources of NO_x. The new sources would receive sufficient allowances to cover actual emissions during the first three (3) years, and would receive allowances based on the same methodology as existing sources thereafter. (HE) (CIN)

Comment: NO_x allowance allocations should be based on heat input data. Heat input data is an easily understood metric and the data are readily available. Output-based allocations may be considered in the future, however, CEMS and monitoring protocols would need to be developed prior to implementing an output-based allowance allocation system and would require a recalculation and redistribution of all of the NO_x budgets. In addition, non-NO_x emitting sources would receive an

unnneeded windfall of allowances, while fossil fuel-fired sources would be required to make reductions that could dramatically exceed those anticipated in the final federal rule. (HE)(CIN)

Comment: IDEM should consider adopting an allocation methodology that uses emission rate limits other than the default values provided by the U.S. EPA in the final federal rule. By expanding applicability, IDEM could increase the limits above the default values of fifteen-hundredths (0.15) pound per million British thermal units for electric generating units and seventeen-hundredths (0.17) pound per million British thermal units for large non-electric generating units. This would create more opportunity for sources to over control to generate emission reduction credits and thus stimulate market activity and lower the overall cost of compliance. (HE)

Comment: IDEM should consider options for expanding the applicability for the NO_x budget trading program. The applicability threshold could be lowered for sources already in the core group, for example, lowering the threshold for electric generators from twenty-five (25) megawatts to fifteen (15) megawatts or the threshold for industrial boilers from two hundred fifty million (250,000,000) British thermal units per hour to one hundred fifty million (150,000,000) British thermal units per hour. The applicability could be expanded to include additional source categories beyond the sources identified by the U.S. EPA. The applicability could also be expanded by allowing individual sources to opt in to the program. The additional sources would have to be able to monitor and report NO_x emissions using continuous emissions monitors (CEMS) or approved monitoring protocols. There may be concerns about the costs for smaller sources to install CEMS or the ability to make reductions as cost effectively as larger sources. However, monitoring protocols may be used to estimate emissions, these additional sources do contribute to the state's NO_x emissions, and smaller sources may emit NO_x at a higher rate than larger sources and size alone should not be the determining criteria. The applicability could be limited by excluding sources with a low enforceable NO_x limit of twenty-five (25) tons per ozone season. (HE)

Comment: IDEM should not establish an allowance set aside for new sources and should allow the market place to work. New sources can obtain allowances through the NO_x budget trading program. This has proven to be successful with the acid rain program and will stimulate market activity. A new, regulated source requiring the legal authority to emit NO_x would have to obtain sufficient allowances from the market to cover its ozone season emissions. The price of allowances would help the new source to determine if additional facility NO_x controls are the better option or are market allowances more cost effective. (HE) (IPL)

Comment: IDEM should not allocate a portion of its trading program budget to promote energy efficiency and renewable projects. Other incentives, external to the NO_x trading program, may be used to promote implementation of energy efficiency and renewable projects. (HE)

Comment: IDEM should allow one-for-one allowance trading without restriction within a multi-state trading area. In order to maximize the compliance cost reduction potential afforded by a NO_x budget trading program, maximum flexibility is needed. The agency should not try to restrict allowance trades among affected sources. (HE)

Comment: IDEM should allow broad trading of emission reductions between utility sources and within utility systems to the extent that it does not have an adverse impact on attainment. In order to implement the second part of this concern, impacts on attainment, it may be necessary to allow trading of reductions below some level that would be established by modeling done in support of this rulemaking. Using modeling in this fashion, IDEM could fashion a practical rule that will allow maximum flexibility to the regulated community, while preserving the necessary localized reductions that will lead to attainment with the ozone ambient air quality standard. Attainment with the ozone standard should be the ultimate goal of this rulemaking. (AEP)

Comment: Efforts to build an emissions credit trading program not only for NO_x, but also for all of the criteria pollutants is strongly supported. Such a mechanism will help Indiana progress more quickly toward our state environmental goals by utilizing the power of the free market. The development and operation of a market system will encourage early reductions of NO_x and other pollutants and will assist sources targeted for NO_x reductions in meeting those requirements. An effective emissions trading program that creates economic incentives and market-based approaches will assist all types of regulated sources in meeting reduction requirements in current and future nonattainment areas. When developing the affected NO_x source list to be included in the trading program, those sources already equipped with best available control technology and those sources where NO_x reductions are not technically feasible should be excluded. An emission trading program should have a mechanism for interstate trading given the ozone transport phenomenon. IDEM should adopt a NO_x budget trading program as part of its strategy for achieving the reductions required under the NO_x SIP call. The trading program can be established by incorporating the model trading rule under 40 CFR 96 by reference or adopting state rules that mirror the model trading rule with variations and omissions in the areas of applicability, NO_x allowance allocation methodology, and early reduction credit methodology. (IMA) (IPC) (APP) (HE)

Comment: The compliance supplement pool included in the final federal rule is needlessly restrictive and complex and will not provide utilities needing extensions with a vehicle to delay installation of controls where circumstances warrant. IDEM should eliminate the limitation on the number of early reduction credits that can be generated. By doing so, IDEM will encourage sources to use the generation of early reduction credits as a prominent feature of their compliance strategy and will stimulate the market by creating additional allowances for potential trading. IDEM should create a limited allowance pool reserved solely for compliance extensions and allocate these allowances among affected units on a pro rata basis, so that all affected systems have the same ability to defer compliance deadlines for selected units in order to maximize system reliability. Under this approach, sources that do not need allowances for compliance extensions could sell these allowances to sources who do, allowing a greater role for market forces in addressing reliability concerns. IDEM should allow credit for early reduction and deferred compliance and the credits should be distributed on a pro rated basis and not first come, first serve. The final federal rule establishes a compliance supplement pool that can be used for early reduction credits or deferred compliance, or both. If the pool is oversubscribed, the use of a pro rated basis of distribution will allow applicants to receive an equitable portion of the allowances. (HE) (CIN)

Comment: The proposed NO_x budget trading rule permits unlimited banking of allowances, but includes flow control provisions to prevent emissions prospectively from exceeding acceptable levels. If banked allowances may be subject to a significant discount shortly before the ozone season in which they will be used, sources will have an incentive to simply control emissions at their own facilities rather than participate in the market and take the risk that sufficient allowances will be unavailable to meet emission limits in future years. IDEM should either eliminate the flow control provisions or utilize a less draconian offset ratio than the two (2) to one (1) ratio in the final federal rule. (CIN)

Response: Although IDEM included NO_x budget trading rule language in the previous version of the draft rule, the current draft rule does not include a trading program. IDEM has included options to allow for more flexibility including, fuel switching and emissions averaging.

Energy Reliability Issues

Comment: In the first notice, IDEM requested comments about how the rule should address power

reliability questions. The greatest risk of power reliability in the final federal rule results from the imposition of too stringent of NO_x emission limits in too short of a time. Such a regulatory program forces too many electric generating units to be out of service in the spring and fall months, non-peak months, to accommodate the retrofit of NO_x control technologies. There are three (3) obvious solutions to the reliability problem:

- Make the emission limit less draconian so less retrofit controls are necessary, thereby decreasing the number of units that have to be taken out of service.
- Extend the deadline for achieving the NO_x emission limitations achieving the same effect on the number of units that have to be out of service at one time.
- A combination of less stringent emission limits and deadline extension.

As such, it becomes clear that if IDEM decides that a less stringent emission limit for electric utilities is appropriate, given costs and benefits issues, then it helps address the reliability questions.

The final federal rule included a compliance supplement pool that is a step in the right direction to address the reliability problem, but there is no indication that it is adequate. A study looked at the effect of extending the compliance deadline to May 1, 2005 and the results showed that the risk would be substantially reduced, but not eliminated. The compliance supplement pool would only have the effect of extending the compliance deadline to May 1, 2004 and, as such, would not be sufficient to reduce the reliability risks.

Finally, to the extent that NO_x emission reductions are imposed on emission sources other than electric generating units, these actions would have no direct affect on power reliability. (IPL)

Response: IDEM is concerned with the reliability issue and is committed to working with affected sources to determine the appropriate level of control that is needed to address Indiana's air quality and reducing any ozone transport. IDEM believes that the implementation of the reductions should begin in 2003 to assist with the attainment of the one (1) hour ozone standard. However, the draft rule does contain an emission limit that is less stringent than the limit in the NO_x SIP call.

Comment: The air pollution control board should examine the reliability issues concerning this rulemaking and the environmental implications of rule-induced blackouts or brownouts. Electricity interruptions could lead to increased use of smaller, more polluting alternatives, such as woodstoves or portable generators. The interruptions could also affect pollution control equipment, such as waste water treatment facilities. The interruptions could also impact the "... reasonable enjoyment of life and property". Indiana residents could find useless many of the everyday appliances used in the home, and other facets of their lives could be impacted. Possible widespread outages attributable to environmental regulation needs to be considered.

The implementation of the enormous volume of controls by the 2003 deadline is infeasible and would threaten the reliability of power supplies in the midwest and other regions. Sixty-eight percent (68%) of the generating units in the Ozone Transport Assessment Group region would be required to install selective catalytic reduction (SCR) and, for some sources, SCR installation will take three (3) to four (4) years on average and substantial delays are possible. The multiple construction outages required for installation of controls are likely to strain reserve electrical capacity to the point where widespread service interruptions are unavoidable, if unrealistic compliance dates and a non-viable trading program exists. Even with very optimistic growth factors there could be brownouts and rolling blackouts for close to five hundred (500) hours during each year that controls are being retrofitted. (CIN) (IPL)

Response: IDEM agrees that the reliability issue is important and will be working with individuals and affected sources to try to find alternatives that will reduce concerns about reliability.

Early Emission Reduction Incentives

Comment: IDEM requested comments concerning what incentives can be provided for early reductions. One (1) form of incentive can be to eliminate dis-incentives, such as administrative delays for the installation of NO_x control technologies. IDEM should review and eliminate these delays whether in the form of construction permits, operating permit revisions, or other approvals by IDEM or local agencies.

If other incentives are envisioned, they must be true incentives. There are substantial capital and operation and maintenance costs for the installation and subsequent operation of NO_x controls. Operating costs will be very high due to consumptive use of ammonia or urea and due to the rapid poisoning of the catalyst due to high sulfur fuel use. As such, any operational use of the equipment prior to the May 1, 2003, compliance deadline will need to overcome the economic detriment to the owners and operators. (IPL)

Response: IDEM agrees that the elimination of disincentives and the development of true incentives are important. During further discussion of rule development, IDEM will be seeking additional information concerning incentives and disincentives that should be evaluated. IDEM will work with affected sources, the U.S. EPA, and the public to assure that preconstruction reviews are at an appropriate level and do not create unwarranted delays in the installation of pollution control technology.

Seasonal Approaches

Comment: IDEM requested comment on how seasonal approaches can be used. As the clearly stated purpose of the rule is to reduce ozone and ozone is only produced during the so-called ozone season, May 1 through September 30, there is clearly no purpose under the rule to impose extra NO_x emission limits beyond the ozone season. Given the substantial operation and maintenance costs imposed by these NO_x retrofit technologies, there would be no ozone reduction benefits achieved for the costs. (IPL)

Response: IDEM agrees. The purpose of this rulemaking is to identify NO_x reductions that are necessary to assist with the attainment of the ozone standard in Indiana and address any ozone transport that may be present. Since the formation of ozone is dependent on certain weather conditions that generally only occur in the summer months, this is when the reductions will be critical.

REQUEST FOR PUBLIC COMMENTS

This notice requests the submission of comments on the draft rule language, including suggestions for specific revisions to language to be contained in the draft rule. Mailed comments should be addressed to:

#98-235(APCB)[NO_x Reductions]
Janet McCabe
Assistant Commissioner
Office of Air Management
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, Indiana 46206-6015.

Hand delivered comments will be accepted by the receptionist on duty at the tenth floor reception desk, Office of Air Management, 100 North Senate Avenue, Indianapolis, Indiana, Monday through Friday,

between 8:15 a.m. and 4:45 p.m.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-2342, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rules Development Section at (317) 233-0430.

COMMENT PERIOD DEADLINE

Comments must be postmarked, hand delivered, or faxed by March 1, 2000.

Additional information regarding this action may be obtained by calling (800) 451-6027 (in Indiana), press 0, and ask for Roger Letterman, Rules Development Section, Office of Air Management, (or extension 2-8342) or dial (317) 232-8342.

DRAFT RULE

SECTION 1. 326 IAC 10-0.5 IS ADDED TO READ AS FOLLOWS:

326 IAC 10-0.5-1 Definitions

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 1. For purposes of this article, the definition given for a term in this article shall control in any conflict between 326 IAC 1-2 and this rule. In addition to the definitions provided in IC 13-11-2 and 326 IAC 1-2, the following definitions apply throughout this article, unless expressly stated otherwise:

- (1) "Actual emissions" means a facility's actual emissions for the baseline year.**
- (2) "Affected facility" means any facility described in 326 IAC 10-1-1(a)(2) or 326 IAC 10-1-1(a)(3).**
- (3) "Affected source" means any source described in 326 IAC 10-1-1(a)(1).**
- (4) "Baseline year" means the following:**
 - (A) For the purpose of 326 IAC 10-1, the most recent calendar year prior to June 12, 1996 for which available data are complete, accurate, and representative of normal operations.**
 - (B) For the purpose of 326 IAC 10-2, the most recent calendar year prior to the effective date 326 IAC 10-2 for which available data are complete, accurate, and representative of normal operations.**
- (5) "Blast furnace gas" means a by-product gas of iron manufacturing at blast furnaces. The gas is cleaned to minimize the particulate content prior to combustion in equipment such as boilers and furnaces.**
- (6) "Boiler" means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.**
- (7) "Clinker" means a product produced in a portland cement kiln which is then proportioned with additives and ground into a fine powder called portland cement.**
- (8) "Coal" means all solid fuels classified as anthracite, bituminous, sub-bituminous, or lignite by the American Society of Testing and Materials (ASTM) Designation D 388-95*.**
- (9) "Coal-fired steam generating unit" means a facility or unit that, for the purpose of fuel switching in this rule, derived ninety percent (90%) or more of its total heat input from**

combustion of coal in the baseline year.

(10) "Coke oven gas" means a by-product gas of coke manufacturing. The gas may or may not be desulfurized prior to combustion in equipment such as boilers or heaters.

(11) "Combined cycle system" means a system comprised of one (1) or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

(12) "Combustion turbine" means an enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, causing the turbine shaft to rotate.

(13) "Control period" means the period beginning May 1 of a year and ending on September 30 of the same year, inclusive.

(14) "Distillate oil" means fuel oil that contains five-hundredths (0.05) weight percent or less nitrogen and complies with the specifications for fuel oil number 1 or 2 as defined by ASTM D 396-92*, Standard Specifications for Fuel Oil.

(15) "Dry bottom boiler" means a boiler that has a furnace bottom temperature below the ash melting point and from which the bottom ash is removed as a solid.

(16) "Electricity generating unit (EGU)" means a boiler, combustion turbine, or combined cycle system that is constructed for the purpose of supplying more than one-third ($\frac{1}{3}$) of its potential electric output capacity and more than twenty-five (25) megawatts of electric output to any utility power distribution system for sale.

(17) "Gas" means the following:

(A) For the purpose of 326 IAC 10-1, natural gas.

(B) For the purpose of 326 IAC 10-2, the following:

(i) Propane.

(ii) Natural gas.

(iii) Coke oven gas

(iv) Blast furnace gas.

(v) Landfill gas.

(vi) Refinery gas

(vii) Any combination of items (i) through (vi).

(18) "Industrial, commercial, or institutional steam generating unit" means a device or unit that produces steam or hot water primarily to supply power, heat, or hot water to any industrial, commercial, or institutional operation, including boilers used by electric utilities that are not utility steam generating boilers.

(19) "Landfill gas" means the gas generated by the decomposition of organic waste deposited in a municipal solid waste landfill or derived from the evolution of organic compounds in the waste.

(20) "Natural gas" means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases originally obtained from geologic formations beneath the earth's surface, of which the principal constituent is methane.

(21) "Nitrogen oxides" or " NO_x " means all oxides of nitrogen including, but not limited to, nitrogen oxide and nitrogen dioxide, but excluding nitrous oxide, collectively expressed as nitrogen dioxide.

(22) "Oil" means crude oil or petroleum, or liquid fuel derived from crude oil or petroleum, and includes distillate oil and residual oil.

- (23) "Oil-fired steam generating unit" means a facility or boiler that, for the purpose of fuel switching in this rule, derived ninety percent (90%) or more of its total heat from combustion of oil in the baseline year.
- (24) "Operating day" means a twenty-four (24) hour period between midnight (12 a.m.) and the following midnight during which any facility combusts fuel or produces intermediate or final products. It is not necessary for the facility to operate continuously for the entire twenty-four (24) hour period.
- (25) "Overfeed stoker" means a boiler design that employs a moving grate assembly where the coal is fed into a hopper and then onto a continuous grate that conveys the coal into the furnace. As coal moves through the furnace, it passes over several air zones for staged burning.
- (26) "Owner or operator" means any person who owns, leases, controls, operates, or supervises any source subject to this rule.
- (27) "Portland cement dry preheat process kiln" means a reaction vessel that receives dried raw material from a preheater and calcines and sinters the dried raw material into a product called cement clinker.
- (28) "Portland cement long dry kiln" means a reactive vessel that dries, calcines, and sinters raw materials into a product called portland cement clinker.
- (29) "Portland cement plant" means any facility that manufactures portland cement by either the wet or dry process.
- (30) "Potential emissions" means a facility's potential emissions as defined in 326 IAC 1-2-55 for the baseline year.
- (31) "Propane" means a heavy, flammable, gaseous, paraffin hydrocarbon, C_3H_8 , found in crude petroleum and natural gas and used especially as fuel and in chemical synthesis.
- (32) "Refinery gas" means a gas that is generated at a petroleum refinery and that is combusted in equipment such as process heaters and boilers. The refinery gas does not include gas generated by catalytic cracking units, generators and fluid coking burners and gases generated by a refinery process unit during start-up, shut-down, and upset or malfunction conditions.
- (33) "Residual oil" means crude oil and fuel oil that do not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 3, 4, and 6 as defined by ASTM D 396-92*, Standard Specifications for Fuel Oils.
- (34) "Spreader stoker" means a boiler design where mechanical or pneumatic feeders distribute coal uniformly over the surface of a moving grate.
- (35) "Tangentially-fired boiler" means a boiler that has coal and air nozzles mounted in each corner of the furnace where the vertical furnace walls meet. Both pulverized coal and air are directed from the furnace corners along a line tangential to a circle lying in a horizontal plane of the furnace.
- (36) "Thirty (30) day rolling average" means an emission rate calculated each operating day by averaging all the preceding thirty (30) successive operating days average emission rates.
- (37) "Unit" means, for the purpose of 326 IAC 10-2, one (1) of the following:
- (A) A boiler.
 - (B) A combustion turbine.
 - (C) A combined cycle system.
- (38) "Utility steam generating unit" means any facility or unit that is constructed for the

purpose of supplying more than one-third (⅓) of its potential electric output capacity and more than twenty-five (25) megawatts of electric output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electric energy for sale is also considered in determining the electric energy output capacity of the affected facility.

(39) "Wall-fired boiler" means a boiler that has pulverized coal burners arranged on the wall of the furnace. The burners have discrete, individual flames that extend perpendicularly into the furnace area.

(40) "Wet bottom boiler" means a boiler that has a furnace bottom temperature above the ash melting point and from which the bottom ash is removed as a liquid.

***Copies of the Code of Federal Regulations (CFR) and American Society of Testing and Materials Designation (ASTM) D 388-95 (January 15, 1995) and ASTM D 396-92 (October 15, 1992) referenced in this rule may be obtained from the Government Printing Office, Washington, D.C. 20402 or are available for copying at the Indiana Department of Environmental Management, Office of Air Management, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Board; 326 IAC 10-0.5-1*)**

SECTION 2. 326 IAC 10-1-1 IS AMENDED TO READ AS FOLLOWS:

Rule 1. Nitrogen Oxides Control in Clark and Floyd Counties

326 IAC 10-1-1 Applicability

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-15; IC 13-17

Sec. 1. (a) Emissions of nitrogen oxides (NO_x) from facilities located in Clark or Floyd County shall be controlled as follows unless alternative limitations and requirements have been established in a Part 70 permit in accordance with 326 IAC 2-7-24. Any proposal to establish an alternative limitation or requirement other than the streamlining of multiple requirements shall be in accordance with section 4(c)(1) of this rule:

(1) Any stationary source located in Clark or Floyd County that exists on or before the effective date of this rule and that emits or has the potential to emit greater than or equal to one hundred (100) tons per year or more of NO_x from all facilities at the source shall apply reasonable available control technology (RACT) as set forth in this rule.

(2) Any facility that exists on or before the effective date of this rule that has the potential to emit NO_x greater than or equal to forty (40) tons per year and that is located at a source that emits or has the potential to emit NO_x greater than or equal to one hundred (100) tons per year, shall comply with the applicable provisions of this rule.

(3) Facilities requiring a permit under 326 IAC 2 that are constructed, modified, or reconstructed after the effective date of this rule and to which a new source performance standard (NSPS) does not apply shall comply with this rule or best available control technology (BACT), whichever is more stringent.

(b) Unless emissions have been limited in accordance with subsection (c), the emission limitations

established in section 4 of this rule shall apply to the following facilities at sources meeting the requirements of subsection (a)(1):

- (1) Each electric utility steam generating unit of the type listed in section 4(b)(2) of this rule with heat input capacity greater than or equal to two hundred fifty (250) million Btu per hour.
- (2) Each industrial, commercial, or institutional steam generating unit of the type listed in section 4(b)(3) of this rule with heat input capacity greater than or equal to one hundred (100) million Btu per hour.
- (3) Each portland cement long dry kiln with production capacity greater than or equal to twenty (20) tons of clinker per hour.
- (4) Each portland dry preheat process kiln with production capacity greater than or equal to twenty (20) tons of clinker per hour.
- (5) Any other type of facility that emits or has the potential to emit NO_x greater than or equal to forty (40) tons per year.

(c) A facility identified in subsection (b) shall not be subject to the emissions limits of section 4 of this rule if the source's actual emissions have been limited to below one hundred (100) tons per year through federally enforceable production or capacity limitations in an operating permit in accordance with section 3(2) of this rule and 326 IAC 2-8 on or before December 14, 1996.

(d) A facility that exists on or before the effective date of this rule that is subject to a NSPS under 40 CFR 60* that affects emissions of NO_x is not subject to this rule.

(e) Beginning May 1, 2003 and each year thereafter, a facility that is subject to this rule and 326 IAC 10-2 shall comply with the more stringent rule during the control period.

*Copies of 40 CFR 60, New Source Performance Standards for New Stationary Sources, may be obtained from the Government Printing Office, Washington, D.C. 20402 are available for copying at the Indiana Department of Environmental Management, Indiana Government Center-North, 100 North Senate Avenue, Indianapolis, Indiana 46204-2220. (*Air Pollution Control Board; 326 IAC 10-1-1; filed May 13, 1996, 5:00 p.m.: 19 IR 2869; filed Apr 22, 1997, 2:00 p.m.: 20 IR 2370*)

SECTION 3. 326 IAC 10-2 IS ADDED TO READ AS FOLLOWS:

Rule 10-2. Nitrogen Oxide Reduction Requirements

326 IAC 10-2-1 Applicability

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 1. (a) This rule applies as follows:

(1) An electricity generating unit serving a generator with a nameplate capacity greater than twenty-five (25) megawatts shall comply with all of the following:

- (A) The emission limits under section 2(a) of this rule.**
 - (B) The monitoring and testing requirements under section 4 of this rule.**
 - (C) The record keeping and reporting requirements under section 5 of this rule.**
- (2) An industrial, commercial, institutional steam generating unit, that has heat input**

capacity greater than two hundred fifty million (250,000,000) Btu per hour shall comply with all of the following:

(A) The emission limits under:

- (i) section 2(b) of this rule, if the unit combusts only one (1) fuel; or
- (ii) section 2(c) of this rule, if the unit combusts more than one (1) fuel simultaneously at any time during the control period.

(B) The monitoring and testing requirements under section 4 of this rule.

(C) The record keeping and reporting requirements under section 5 of this rule.

(b) The requirements of this rule shall not apply to the following:

(1) A unit under subsection (a) that:

(A) operates under a federally enforceable permit; and

(B) the permit includes terms and conditions that restrict the unit's nitrogen oxides (NO_x) emissions to less than or equal to twenty-five (25) tons during the control period of each year.

(2) An electricity generating unit serving a generator with a nameplate capacity less than or equal to twenty-five (25) megawatts.

(3) An industrial, commercial, institutional steam generating unit, that has heat input capacity less than or equal to two hundred fifty million (250,000,000) Btu per hour.

(Air Pollution Control Board; 326 IAC 10-2-1)

326 IAC 10-2-2 Emissions limits

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 2. (a) Except as provided in section (3) of this rule, the owner or operator of an electricity generating unit serving a generator with a nameplate capacity greater than twenty-five (25) megawatts shall not allow NO_x emissions greater than twenty-five hundredths (0.25) pound per million British thermal units (Btu) during the control period of each year beginning in 2003.

(b) Except as provided in section (3) of this rule, the owner or operator of an industrial, commercial, institutional steam generating unit, that has heat input capacity greater than two hundred fifty million (250,000,000) Btu per hour shall not allow NO_x emissions greater than the following during the control period of each year beginning in 2003:

Unit Type	Fuel Type	Emissions Limit (lb/million Btu input)
Coal fired (non-fluidized bed combustion)	Coal	0.4
Coal fired (fluidized bed combustion)	Coal	0.35
Oil fired	Distillate oil	0.2
	Residual oil	0.3
Gas fired	Gas	0.2

(c) Each unit listed in subsection (b) that simultaneously combusts a mixture of coal, oil, or gas at any time during the control period of any year beginning in 2003 shall comply with emissions limits determined by the following equation:

$$E = (A \times E1 + B \times E2 + C \times E3) / (A + B + C)$$

Where: E = the NO_x limit expressed as pounds per million Btu.

A = heat input in million Btu from combustion of coal.

B = heat input in million Btu from combustion of oil.

C = heat input in million Btu from combustion of gas.

E1 = applicable emissions limit in subsection (b) in pounds per million Btu for coal.

E2 = applicable emissions limit in subsection (b) in pounds per million Btu for oil.

E3 = applicable emission limit in subsection (b) in pounds per million Btu for gas.

(d) An owner or operator that intends to combust a fuel other than coal, oil, or gas at any time during the control period of any year beginning in 2003 may submit a request for a determination of an allowable emission rate in pounds per million Btu. The request shall be submitted to the department for approval and incorporation into the source's operating permit in accordance with the applicable procedures in 326 IAC 2 and shall be submitted two hundred seventy (270) days prior to May 1, 2003 and one hundred twenty (120) days prior to using the fuel or fuels after May 1, 2003. The request shall include the following:

(1) A description of the fuels to be combusted.

(2) Composition of the fuels, including nitrogen content.

(3) Uncontrolled emissions rate in pounds per million Btu, including method of estimation.

(4) A proposed emission rate in pounds per million Btu that provides that the emissions are controlled:

(A) by sixty percent (60%) from uncontrolled emissions; or

(B) if the source can demonstrate that a sixty percent (60%) reduction is not reasonably achievable, an alternative level with the application of reasonably achievable control technology (RACT).

(5) Documentation that the emission rate will be consistently achieved at various control measure and unit operating conditions such as loads, combustion temperature, and excess air.

(e) Emissions limits shall be complied with on a thirty (30) day rolling average basis. (*Air Pollution Control Board; 326 IAC 10-2-2*)

326 IAC 10-2-3 Compliance procedures

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 3. (a) Compliance with this rule shall be achieved in accordance with one (1) of the following:

(1) Complying with the emissions limits in section 2 of this rule for each unit.

(2) For industrial, commercial, institutional steam generating units subject to this rule, the owner or operator may comply with an emissions limit based on a fuel switching program.

Provisions applicable to fuel switching are as follows:

(A) Fuel may be switched as follows:

(i) A coal fired steam generating unit may combust oil, gas, or a simultaneous combination of oil and gas during the control period. The steam generating unit shall comply with the applicable limit for coal combustion during the control period.

(ii) An oil fired steam generating unit may combust oil with a lower NO_x emitting potential, gas, or a simultaneous combination of oil and gas during the control period. The steam generating unit shall comply with the applicable limit for oil combustion during the control period.

(B) The owner or operator shall prepare a fuel switching plan addressing the following information and submit the plan to the department in accordance with subsection (b):

(i) Date the plan will be implemented.

(ii) Identification of each steam generating unit to be included in the fuel switching program.

(iii) For each steam generating unit in the fuel switching program the following information:

(AA) Type of steam generating unit.

(BB) Fuels that are currently combusted and those that will be combusted under the plan.

(CC) Emission rate for each fuel, including basis, expressed as pounds per million British thermal unit (lb/mmBtu), and the amount of heat that will be derived from each fuel, expressed as million Btu (mmBtu).

(DD) Period of time during the control period in which each fuel shall be used.

(EE) A demonstration that the fuel Btu weighted average emissions rate shall not exceed the applicable emissions limit using the following equation:

$$EL = (E1 \times H1 + E2 \times H2 + \dots) / (H1 + H2 + \dots)$$

Where: EL = applicable emissions limit, expressed in pounds per million Btu.

E1, E2,... = emission rate of alternative fuels 1, 2, etc., expressed in pounds per million Btu.

H1, H2,... = amount of heat derived from alternative fuels 1, 2, etc., expressed in million Btu per year.

(FF) Monitoring and record keeping procedures.

(GG) Procedures that shall be used to demonstrate compliance with the emissions limits during the fuel switching period.

(3) Instead of complying with the emissions limits in section 2 of this rule on a unit-by-unit basis, the owner or operator subject to this rule may comply with an emission limit based on an approved emissions averaging plan. The emissions averaging plan shall provide the following:

(A) All the sources and units participating in the averaging plan are located in Indiana and under the control of the same owner or operator.

(B) Each unit included in an averaging plan shall have an alternative contemporaneous emission limitation and can only be included in one (1) averaging plan.

(C) Each unit included in an averaging plan shall have the following:

(i) If the unit has an alternative contemporaneous emission limitation more stringent than the unit's applicable emission limitation under section 2 of this rule, a minimum heat input value.

(ii) If the unit has an alternative contemporaneous control period emission limitation less stringent than the unit's applicable emission limitation under section 2 of this rule,

a maximum heat input value.

(D) The Btu-weighted average emission rate for the units in an averaging plan shall be less than or equal to the Btu-weighted average emission rate for the same units had the units each been operated, during the same period of time, in compliance with the applicable emission limitations in section 2 of this rule.

(E) In order to demonstrate that the proposed plan is consistent with clause (D), the alternative contemporaneous emission limitations and heat input values assigned to the units in the proposed averaging plan shall meet the following:

$$\frac{\sum_{i=1}^n (R_{Li} \times HI_i)}{\sum_{i=1}^n HI_i} \leq \frac{\sum_{i=1}^n (R_{li} \times HI_i)}{\sum_{i=1}^n HI_i}$$

where:

R_{Li} = Alternative contemporaneous emission limitation for unit i, in lb/mmBtu, as specified in the averaging plan.

R_{li} = Applicable emission limitation for unit, in lb/mmBtu, as specified in section 2 of this rule.

HI_i = Heat input for unit i, in mmBtu, as specified in the averaging plan.

n = Number of units in the averaging plan.

(F) When an averaging plan, or a revision to an approved averaging plan, is not approved, the owner or operator of each unit in the plan shall operate the unit in compliance with the emission limitation in section 2 of this rule that would apply in the absence of the averaging plan, or revision to a plan.

(G) A complete averaging plan shall include the following:

(i) Identification of each unit to be included under the plan.

(ii) Each unit's applicable emission limitation in section 2 of this rule.

(iii) The alternative contemporaneous emission limitation for each unit, in lb/mmBtu. If any of the units identified in the averaging plan utilize a common stack, the same alternative contemporaneous emission limitation shall be assigned to each unit and different heat input limits may be assigned.

(iv) The heat input assigned to each unit, in lb/mmBtu.

(v) The calculation in clause (E).

(vi) The control periods for which the plan will be in effect.

(vii) The provisions of clause (I), (J), or (K).

(viii) The method or methods to be used to determine NO_x emissions and emissions averaging.

(ix) Identification of any measures necessary to control NO_x emissions.

(H) Each unit in an approved averaging plan is in compliance with the emission limitation under the plan only if the requirements in clause (I) or (J) are met.

(I) For each unit, the unit's actual average emission rate, in lb/mmBtu, is less than or equal to the unit's alternative contemporaneous emission limitation in the averaging plan and the following:

(i) For each unit with an alternative contemporaneous emission limitation less stringent

than the applicable emission limitation in section 2 of this rule, the actual heat input does not exceed the heat input in the averaging plan.

(ii) For each unit with an alternative contemporaneous emission limitation more stringent than the applicable emission limitation in section 2 of this rule, the actual heat input is not less than the heat input in the averaging plan.

(J) If one (1) or more of the units does not meet the requirements under clause (I), the owner or operator shall demonstrate that the actual Btu-weighted average emission rate for the units in the plan is less than or equal to the Btu-weighted emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitation in section 2 of this rule as follows:

(i) A group showing of compliance shall be made based on the following equation:

$$\frac{\sum_{i=1}^n (R_{ai} \times HI_{ai})}{\sum_{i=1}^n HI_{ai}} \leq \frac{\sum_{i=1}^n (R_{li} \times HI_{ai})}{\sum_{i=1}^n HI_{ai}}$$

where:

R_{ai} = Actual average emission rate for unit i, in lb/mmBtu.

R_{li} = Applicable emission limitation for unit i, as specified in section 2 of this rule.

HI_{ai} = Actual heat input for unit i, in mmBtu.

n = Number of units in the averaging plan.

(ii) For units with an alternative emission limitation, R_{li} shall equal the applicable emission limitation under section 2 of this rule, not the alternative emission limitation.

(K) If there is a successful group showing of compliance under clause (J), then all the units in the averaging plan shall be deemed to be in compliance with the units' alternative contemporaneous emission limitations and heat input limits under subdivision (I).

(b) An owner or operator who elects to comply with an emission limit based on a fuel switching plan developed in accordance with subsection (a)(2) or an emissions averaging plan developed in accordance with subsection (a)(3) shall submit the plan to the department for approval and incorporation into the source's operating permit in accordance with the applicable procedures in 326 IAC 2. The owner or operator shall submit an initial plan two hundred seventy (270) days prior to May 1, 2003. An initial plan to be implemented after May 1, 2003 and any revisions to an approved plan shall be submitted one hundred twenty (120) days prior to implementation of the plan or plan revision.

(c) The department may require verification of the emissions rates used by the owner or operator in this section using the quality assurance and data validation procedures under 40 CFR 60* or 40 CFR 75* and 40 CFR 76.11*, as applicable.

*Copies of the Code of Federal Regulations (CFR) referenced in this rule may be obtained from the Government Printing Office, Washington, D.C. 20402 or are available for copying at the Indiana Department of Environmental Management, Office of Air Management, Indiana

326 IAC 10-2-4 Monitoring requirements

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 4. Beginning with the control period in 2003, any owner or operator of an electricity generating unit serving a generator with a nameplate capacity greater than twenty-five (25) megawatts or an industrial, commercial, institutional steam generating unit, that has heat input capacity greater than two hundred fifty million (250,000,000) Btu per hour shall monitor NO_x emissions during the control period of each year using a NO_x continuous emissions monitor system (CEMS) to demonstrate compliance with the applicable emission limit as follows:

- (1) For units subject to acid rain program requirements under 40 CFR 72 through 78*, a NO_x CEMS that meets the requirements of 40 CFR 75* and 326 IAC 3, as applicable.
- (2) For units not subject to acid rain program requirements under 40 CFR 72 through 78*, a NO_x CEMS that meets the applicable requirements of 40 CFR 60, Subpart A*, and 40 CFR 60, Appendix B*, and complies with the quality assurance procedures specified in 40 CFR 60, Appendix F* and 326 IAC 3, as applicable.

The CEMS shall be operated and maintained in accordance with an on-site CEMS operating plan that meets the requirements under 326 IAC 3-5-4. The CEMS operating plan shall be made available to the department and the U.S. EPA upon request.

*Copies of the Code of Federal Regulations (CFR) referenced in this rule may be obtained from the Government Printing Office, Washington, D.C. 20402 or are available for copying at the Indiana Department of Environmental Management, Office of Air Management, Indiana Government Center-North, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Board; 326 IAC 10-2-4*)

326 IAC 10-2-5 Record keeping and reporting

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 5. (a) Beginning with the control period in 2003, any owner or operator of a unit subject to section 2 of this rule, shall comply with the following record keeping requirements:

- (1) The owner or operator shall maintain all records necessary to demonstrate compliance with this rule on site for a period of five (5) years. The records shall be made available to the department or the U.S. EPA upon request. The owner or operator shall maintain records of the following information for each day the unit is operated during the ozone season:

- (A) Identification and location of each unit subject to the requirements of this rule.
- (B) Calendar date of record.

- (C) The number of hours the unit is operated during each day including startups, shutdowns, malfunctions, and the type and duration of maintenance and repairs.
 - (D) If applicable, date and results of each inspection of the following:
 - (i) Air pollution control equipment used for compliance with this rule.
 - (ii) The CEMS or any components thereof.
 - (E) If applicable, a summary of any corrective maintenance taken on the following:
 - (i) Air pollution control equipment used for compliance with this rule.
 - (ii) The CEMS or any components thereof.
 - (F) If applicable, identification of time periods:
 - (i) during which NO_x standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances; and
 - (ii) except for units that apply 40 CFR 75* data substitution procedures, for which operating conditions and pollutant data were not obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.
 - (G) Data, as necessary, to determine compliance with the emission limitations in this rule.
- (2) The owner or operator of multiple sources may submit a request to the department that records be maintained at a centralized location as follows:
- (A) The owner or operator shall be notified in writing of the approval or disapproval of the request.
 - (B) The records may be maintained at the centralized location upon receipt of the written approval of the request.
- (b) The owner or operator shall comply with the following reporting requirements:
- (1) By January 1, 2003, submit to the department the following information:
- (A) The identification number and type of each unit subject to this rule.
 - (B) The name and address of the plant where the unit is located.
 - (C) The name and telephone number of the person responsible for demonstrating compliance with this section.
 - (D) If applicable, identification of the compliance options under section 3(a) of this rule to be used.
- (2) Submit excess emissions reports during the control period of each year to the department, beginning in 2003 and each year thereafter, and including the following:
- (A) Unit identification.
 - (B) The day or days of occurrences.
 - (C) Emission rate in lb/mmBtu.
 - (D) Reason for the exceedances and corrective action taken, if any.
- The report shall be postmarked or hand delivered to the department within thirty (30) days of an occurrence.

*Copies of the Code of Federal Regulations (CFR) referenced in this rule may be obtained from the Government Printing Office, Washington, D.C. 20402 or are available for copying at the Indiana Department of Environmental Management, Office of Air Management, Indiana Government Center-North, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Board; 326 IAC 10-2-5*)

SECTION 4. 326 IAC 21-1-1 IS AMENDED TO READ AS FOLLOWS:

326 IAC 21-1-1 Incorporation of federal regulations

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 1. (a) The air pollution control board incorporates by reference the provisions of 40 CFR 72 through 40 CFR 78, 61 FR 59142, 61 FR 67111, 61 FR 68821, and 62 FR 3463*, **62 FR 55461 (October 24, 1997), 63 FR 18837 (April 16, 1998), 63 FR 57498 through 63 FR 57514 (October 27, 1998) and 63 FR 68400 (December 11, 1998)*** for purposes of implementing an acid rain program that meets the requirements of Title IV of the Clean Air Act **and to incorporate monitoring, record keeping, and reporting requirements for nitrogen oxide emissions to demonstrate compliance with nitrogen oxides emission reduction requirements.**

(b) The term "permitting authority" shall mean the commissioner of the department of environmental management, and the term "administrator" shall mean the administrator of the U.S. EPA.

(c) If the provisions or requirements of 40 CFR 72 through 40 CFR 78, 61 FR 59142, 61 FR 67111, 61 FR 68821, and 62 FR 3463*, **62 FR 55461 (October 24, 1997), 63 FR 18837 (April 16, 1998), 63 FR 57498 through 57514 (October 27, 1998) and 63 FR 68400 (December 11, 1998)*** conflict with or are not included in the provisions of 326 IAC 2-7 and 326 IAC 2-8, the provisions and requirements of 40 CFR 72 through 40 CFR 78, 61 FR 59142, 61 FR 67111, 61 FR 68821, and 62 FR 3463*, **62 FR 55461 (October 24, 1997), 63 FR 18837 (April 16, 1998), 63 FR 57498 through 63 FR 57514 (October 27, 1998) and 63 FR 68400 (December 11, 1998)*** shall apply and take precedence.

*Copies of the Code of Federal Regulations (CFR) and the Federal Register (FR) referenced may be obtained from the Government Printing Office, Washington, D.C. 20402 and are available for copying at the Indiana Department of Environmental Management, Office of Air Management, Indiana Government Center-North, 100 North Senate Avenue, Tenth Floor East, Indianapolis, Indiana 46204. (*Air Pollution Control Board; 326 IAC 21-1-1; filed May 25, 1994, 11:00 a.m.: 17 IR 2283; filed Dec 1, 1997, 4:30 p.m.: 21 IR 1285*)

SECTION 5. THE FOLLOWING ARE REPEALED: 326 IAC 10-1-2.

Notice of First Meeting/Hearing

Under IC 4-22-2-24, IC 13-14-8-6, and IC 13-14-9, notice is hereby given that on April 13, 2000 at 1:00 p.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Auditorium, Indianapolis, Indiana, the Air Pollution Control Board will hold a public hearing on new rules, 326 IAC 10-0.5-1 and 326 IAC 10-2, amendments to 326 IAC 10-1-1 and 326 IAC 21-1-1 and the repeal of 326 IAC 10-1-2.

The purpose of this hearing is to receive comments from the public prior to preliminary adoption of these rules by the board. All interested persons are invited and will be given reasonable opportunity to express their views concerning the proposed new rules. Oral statements will be heard, but for the accuracy of the record, all comments should be submitted in writing. Procedures to be followed at this hearing may be found in the April 1, 1996 Indiana Register, page 1710 (19 IR 1710).

Additional information regarding this action may be obtained by calling (800) 451-6027 (in

Indiana), press 0 and ask for Roger Letterman, Rules Development Section, Office of Air Management, (or extension 2-8342) or dial (317) 232-8342. If the date of this hearing is changed it will be noticed in the Change of Notice section of the Indiana Register.

Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:

*Attn: Brandye Hendrickson, ADA Coordinator
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015*

or call (317) 233-1785. Speech and hearing impaired callers may contact the agency via the Indiana Relay Service at 1-800-743-3333. Please provide a minimum of 72 hours' notification.

Copies of these rules are now on file at the Office of Air Management, Indiana Department of Environmental Management, Indiana Government Center-North, 100 North Senate Avenue, Tenth Floor East, Indianapolis, Indiana and are open for public inspection.